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APPLICATION NO.	FILING DATE
09/591,015	06/09/00

PATENT DEPARTMENT
GIGABIT WIRELESS
3099 N FIRST STREET
SAN JOSE CA 95134

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

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EXAMINER

VER, C

DATE MA

PAPER NUMBER

29/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/591,015

Applicant(s)
Sebastian et al

Examiner
Charles Craver

Art Unit
2681



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Jun 9, 2000 is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 3
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

Art Unit: 2681

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include reference sign(s) mentioned in the description: Note that FIGS 5 and 6 do not provide alphanumeric tags describing the elements of the present invention. Correction is required.

Claim Objections

2. Claim 1 is objected to because of the following informalities: in line 6, change "comprising" to --comprises--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 4-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. Claims 4-7 all recite the limitation "the common transmission characteristic" in lines 1-2 of the claims. There is insufficient antecedent basis for this limitation in the claim.

Art Unit: 2681

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

7. Claims 1-9 and 14-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Hudson.

Regarding claim 1,

Hudson discloses a cellular wireless channel re-use system comprising
a cluster of base station transceivers (FIG 1) comprising
a first plurality of transceivers (BS12, 13), and
a plurality of common channel areas (for example, the bottom left sector in BS13 and the bottom right sector in BS12) each having a unique set of channels (col 2 lines 7-19, col 3 lines 11-27 and 53-56), wherein

each common channel area may comprise at least one mobile unit, each unit receiving signals from other base station transceivers (e.g. BS19 and BS20, a second plurality) through one of said set of channels (col 1 lines 31-37, col 2 lines 34-40).

Regarding claims 2 and 14,

Hudson further discloses that said cluster is one of a plurality (see FIG 1, col 3 lines 7-10).

Regarding claim 3,

Art Unit: 2681

Since the system of Hudson may be for use in a single-characteristic system (col 2 lines 51-55), each commonly assigned channel would inherently comprise a common characteristic.

Regarding claims 4-7,

Hudson states that the characteristic may be time (TDMA), frequency (FDMA), or code (CDMA) (col 2 lines 52-56).

Regarding claim 8,

Hudson shows that two sectors providing the same channel may be adjacent (note FIG 1, bottom right sector of BS12 and upper right sector of BS19), in which case a user in either sector would receive signals from both base stations, both base stations being within the common area.

Regarding claim 9,

Hudson states that a mobile unit may receive a signal from other base stations which are not directly adjacent to the common area (e.g. lower right sector in BS13, col 1 lines 31-37).

Regarding claim 15,

Hudson discloses a cellular wireless channel re-use method comprising providing a cluster of base station transceivers (FIG 1) comprising

- a first plurality of transceivers (BS12, 13), and
- a plurality of common channel areas (for example, the bottom left sector in BS13 and the bottom right sector in BS12) each having a unique set of channels (col 2 lines 7-19, col 3 lines 11-27 and 53-56), and wherein each common channel area may comprise at least one mobile unit, and

Art Unit: 2681

further providing other base station transceivers (e.g. BS19 and BS20, a second plurality) which may communicate (transmit) to said mobile unit through one of said set of channels, said signals thus received by the mobile station (col 1 lines 31-37, col 2 lines 34-40).

Regarding claim 16,

Since the system of Hudson may be for use in a single-characteristic system (col 2 lines 51-55), each commonly assigned channel would inherently comprise a common characteristic.

Regarding claims 17 and 20,

Hudson states that the characteristic may be time (TDMA), frequency (FDMA), or code (CDMA) (col 2 lines 52-56).

Regarding claim 18,

Hudson shows that two sectors providing the same channel may be adjacent (note FIG 1, bottom right sector of BS12 and upper right sector of BS19), in which case a user in either sector would receive signals from both base stations, both base stations being within the common area.

Regarding claim 19,

Hudson states that a mobile unit may receive a signal from other base stations which are not directly adjacent to the common area (e.g. lower right sector in BS13, col 1 lines 31-37).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2681

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hudson as applied to claim 1 above, and further in view of Roy, III et al.

While disclosing applicants invention of claim 1 as set forth above, Hudson does not state that the mobile unit employs spatial multiplexing.

Roy states that spatial multiplexing offers improved transmission quality over a conventional sectored system (col 18 lines 34-47).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to add such a feature to Hudson, as it would improve transmission and reception quality.

10. Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hudson as applied to claim 1 above, and further in view of Schmidt et al.

While disclosing applicants invention of claim 1 above, Hudson does not disclose that the mobile station allows for diversity.

Schmidt discloses that it is useful in a sectored system (FIG 3) for the base station and mobile station to allow transmitter and receiver diversity (col 3 lines 12-29, col 7 lines 28-36).

Therefore, it would have been obvious to one of ordinary skill in the art to add such a feature to Hudson, as it would reduce power use.

Art Unit: 2681

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wang discusses sectorized-cell frequency reuse.

Doner discusses 6-sector frequency re-use.

Aalto et al and Comroe et al discuss cell overlaying techniques.

12. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for formal communications intended for entry)

Or:

(703) 872-9314 (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington VA, sixth floor (receptionist).

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Craver whose telephone number is (703) 305-3965.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne Bost, can be reached on (703) 305-4778.


Application/Control Number: 09/591015

Page 8

Art Unit: 2681

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4700.


C. Craver
August 22, 2001


NAY MAUNG
PRIMARY EXAMINER 8/25/01